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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,451	11/28/2000	Timothy W. Fuehrer	3-48-26-2	6804

7590 01/17/2007
Docket Administrator
Agere Systems Inc.
P. O. Box 614
Berkeley Heights, NJ 07922-0614

EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/723,451

Applicant(s)

FUEHRER ET AL.

Examiner

TUAN A. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 9-16, 18-23, 25-30 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-16, 18-23, 25-30, and 33-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 06/03/2005 and 12/22/2006 have been fully considered but they are not persuasive.

A-1. In response to applicant's remark on page 2, Applicant argues that the limitation "parasitic capacitor has a capacitance that is as small as possible" of claim 38 is a positive structural limitation as it accurately defines the functionality of the parasitic capacitor.

In response to applicant's arguments as stated above, the Examiner respectfully disagrees with the Applicant's argument. The limitation "parasitic capacitor has a capacitance that is as small as possible" is not clearly defined the value of the capacitor and indefinite claimed limitations. Furthermore, the value of the capacitor will vary time to time as a technology is changing. Therefore, the rejection is still maintained.

B-1. In response to applicant's remark on pages 6-7, Applicant argues that the examiner has fails to combine Sun in view of Herbert and Yorinks in claims 1, 21, 30, and 38, and applicant also alleges that there is no motivation to combine Sun in view of Herbert and Yorinks.

In response to applicant's arguments as stated above, the Examiner respectfully disagrees with the Applicant's argument. It appears applicant is attacking individual merits of Sun, Herbert and Yorinks and concludes that there is no impetus to combine

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them. However, the 103 rejections is in consideration of Sun in view of Herbert and Yorinks as a whole. One cannot show non-obviousness by attacking references individually. In re Keller, 208 USPQ 871 (CCPA 1981). The test for obviousness is not whether features of one reference may be bodily incorporated into the other to produce claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in pertinent art. In re Bozek, (CCPA) 163 USPQ 545. The question in a rejection for obviousness on a combination of references is what secondary reference would teach one skilled in the art and not whether its structure could be bodily substituted in basic reference structure. In re Richman, 165 USPQ 509 (CCPA 1970). In this regard, the intent of Herbert and Yorinks as a secondary teaching is not to combine its structural features into Sun, but rather to use the teaching of Herbert and Yorinks to teaches a capacitor has a capacitance in the range of approximately 0.5 pF to approximately 2.5 pF. In re Rose, 105 USPQ 237 (CCPA 1955). Changing in size/range is a design choice. One skill in the art should recognize that varying the value of the capacitor is not involve any inventive feature since it is just a matter of routine experiment and engineering choice. Therefore, there is an existing a strong prima facie case of obviousness under 35 U.S.C 103, and proper to combine Sun, Herbert and Yorinks.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

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where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to do so found in order to provide a high degree of noise isolation and safety as suggested by Herbert at col.2, ln.22-25.

C-1. In response to applicant's remark on page 7, Applicant argues that the examiner has apparently engaged in hindsight reasoning to combine Sun in view of Herbert and Yorinks.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the examiner has established a strong prima facie case of obviousness and to provide proper suggestions to combine Sun, Herbert and Yorinks. Therefore, the combination of Sun, Herbert and Yorinks are proper, and it is not hindsight as arguing by applicant.

For the reasons above, the 103 rejections as set forth in the last Office Action stand.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 38 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added subject matter of "parasitic capacitor has a capacitance that is as small as possible" to independent claim 38 is considered new matter because the specification as original filed does not provide support for such limitation.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "parasitic capacitor has a capacitance that is as small as possible" is not clearly defined the value of the capacitor, indefinite claimed limitations, and the value of the capacitor will vary time to time as a technology is changing.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-6, 9-19, 21-23, 25-30, and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al. (U.S. Patent No.: 6,212,263, hereinafter, "Sun") in view of Herbert (U.S. patent No.: 6,137,392) and further in view of Yorinks et al. (U.S. patent No.: 4,401,955, hereinafter, "Yorinks").**

Regarding claims 1, 21, 30, and 38, Sun teaches an electrical interface (see figure 6), comprising:

a codec that generates two signal paths that together form an input differential pair (see figure 6, codec 418, col.7, ln.5-18),

a primary inductor and a secondary inductor for operable coupling an input

differential signal pair to an output differential signal pair (see figure 6, transformer 504, col.7, ln.5-30), and

a filter that attenuates a signal occurring in the output differential signal pair (see figure 6, HPF 512, line driver 510, col.7, ln.25-37).

It should be noticed that Sun fails to clearly teach a parasitic capacitor operable coupled between the primary inductor and the secondary inductor. However, Herbert teaches such features (see figure 3, parasitic capacitor 71, col.4, ln.16-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Herbert, into view of Sun in order to provide a high degree of noise isolation and safety as suggested by Herbert at col.2, ln.22-25.

Sun and Herbert, in combination, fails to teach the capacitor has a capacitance is in the range of approximately 0.5 pF to approximately 2.5 pF. However, Yorinks teaches such features (see col.5, ln.40-45, col.6, ln.30-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yorinks, into view of Sun and Herbert in order to provide a high degree of noise isolation and safety as suggested by Herbert at col.2, ln.22-25.

Regarding claims 2, 22, and 33, Sun further teaches the interface wherein the filter acts as a low pass filter and wherein the electrical interface further includes a high-pass filter, the low-pass filter and the high-pass filter having overlapping cut-off frequencies (see figure 6, low pass filter 500, high pass filter 512, col.7, ln.5-38).

Regarding claims 3 and 34, Sun further teaches the interface wherein the low-pass filter and the high-pass filter together attenuate signals over a frequency range of approximately 50 kHz to approximately 10 MHz (see figure 3).

Regarding claim 4, Sun further teaches the interface wherein the primary inductor is connected between two signal paths forming the input differential signal pair (see figure 6, transformer 504, output differential pairs signals from line driver 502 to the input primary inductor of transformer 504).

Regarding claims 5 and 23, Sun further teaches the interface wherein the primary inductor forms the primary winding of a transformer (see figure 6, transformer 504).

Regarding claims 6 and 35, Sun further teaches the interface wherein the secondary inductor is connected between two signal paths forming the output differential signal pair and wherein the secondary inductor forms the secondary winding of the transformer (see figure 6, transformer 504, secondary inductor, differential output at POTS line 202).

Regarding claims 9 and 25, Sun further teaches the interface wherein the filter includes an output attenuation element for operable coupling a signal path of the output differential signal pair to ground (see figure 6, LPF 500, driver 502, connected to ground).

Regarding claims 10 and 26, Sun further teaches the interface wherein the output attenuation element includes a resistor and a capacitor connected in parallel (see

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figure 6, HPF). It is inherently that the HPF should be including a resistor and a capacitor.

Regarding claims 11 and 27, Sun further teaches the interface wherein the output attenuation element forms a low-pass filter (see figure 6, LPF 504).

Regarding claims 12 and 28, Sun further teaches the interface further including an input attenuation element operable coupled to at least one of the signal paths forming the input differential signal pair (see figure 6, input at codec 418).

Regarding claim 13 and 29, Sun further teaches the interface wherein the input attenuation element includes a resistor and a capacitor connected in series (see figure 6, high pass filter 510, It is inherently that the high pass filter should be including a resistor and a capacitor).

Regarding claim 14, Sun further teaches the interface wherein the input attenuation element forms a high-pass filter (see figure 6, HPF 512).

Regarding claim 15, Herbert further teaches the interface wherein the filter attenuates a common mode signal in the output differential signal pair (see col.11, ln.55-60).

Regarding claim 16, Sun further teaches the interface wherein the interface is adapted for being operable coupled between a codec and a digital circuit (see figure1, processor 100).

Regarding claim 18, Sun further teaches the interface further including an analog front end for operable coupling the codec to a telephone line (see figure 4, codec 418, DSL AFE 420).

Regarding claim 19, Sun further teaches the interface wherein the analog front end includes circuitry for providing power to the codec from the telephone line (see figure 6, codec get the power from telephone line at jack 516).

Regarding claim 36, Sun further teaches the method wherein the filtering step includes the step of attenuating high-frequency signals in the output differential signal pair (see figure 6, HPF 512). It is inherently that the HPF couples to the output, which attenuate the high frequency signals.

Regarding claim 37, Sun further teaches the method further including the step of attenuating low-frequency signals in the input differential signal pair (see figure 5, LPF 500, It is inherently that the LPF couples to the input, which attenuate the low frequency signals).

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al. (U.S. Patent No.: 6,212,263, hereinafter, "Sun") in view of Herbert (U.S. patent No.: 6,137,392) and further in view of Yorinks et al. (U.S. patent No.: 4,401,955, hereinafter, "Yorinks") as applied to claim 1 above, and further in view of Lowe et al. (U.S. Patent No.: 5,864,580, hereinafter, "Lowe").

Regarding claim 20, Sun, Herbert, and Yorinks, in combination, fails to clearly teach the interface wherein the analog front end includes a shunt regulator. However, Lowe teaches such features (see col.3, ln.50-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lowe, into view of Sun, Herbert, and Yorinks in order to protect the line side device.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

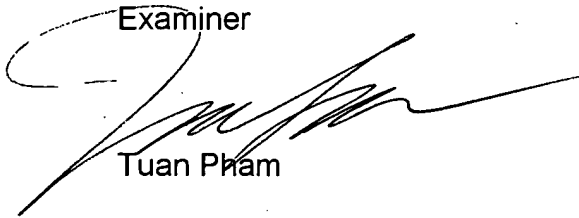
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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2618
January 15, 2007
Examiner



Tuan Pham

Supervisory Patent Examiner
Technology Center 2600



Matthew Anderson